

An unusual button-form australite from Earraheedy Station, Western Australia

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Australites collected from No.1 Marracoonda Paddock, which is centred 25°52'S, 121°53'E on Earraheedy Station, include an unusual form of button (Figure 1A-D). Flange has developed outward and unevenly instead of coiling backward from the direction of flight into a regular toroidal form. The dimensions of the button are 14.0-16.0 mm diameter x 7.1 mm thick and the weight is 1.51 grams.

The outwardly directed flange (Figure 1B) characterizes buttons of the unusual type studied by Chapman (1964), who reproduced similar shapes from glycerine glass in wind tunnel experiments and enunciated the aerodynamics.

Unlike the two buttons studied by Chapman, the Earraheedy button has no obvious flow ridges upon the anterior surface of flight (Figure 1D). However, the edge of the anterior surface has superimposed scallops (Figure 1C), and the low, eyebrow-like ridges bordering the scallops probably constituted a single, almost circumferential flow ridge of peculiarly scalloped shape.

The Earraheedy australite experienced a smaller ratio of body force to aerodynamic force (Chapman 1964) than the other known examples of its type, and has therefore a less exaggerated extension of the flange.

The type buttons and the one from Earraheedy Station are the only three on record but the form might not be as rare as would appear. Additional specimens could have been misidentified and dismissed as "button cores" i.e., buttons of the common type from which weakly attached flange had broken away. The deceptive similarity of the posterior surfaces of flight is illustrated by the Earraheedy button (Figure 1A) and a "button core" in the same collection from No.1 Marracoonda Paddock (Figure 1E). The anterior surface of the button (Figure 1D) shows that the irregular outline is a consequence of the different extents of the melt streams and not a consequence of fracture.

One of the type buttons was found within an area spanning the eastern half of the South Australia/Northern Territory border; the other was found near Gladstone, Tasmania. Those find sites and No.1 Marracoonda Paddock are within the two sectors of occurrence of very heavy

australites (Cleverly and Scrymgour 1978), but as there are only three known specimens, this distribution might be fortuitous.

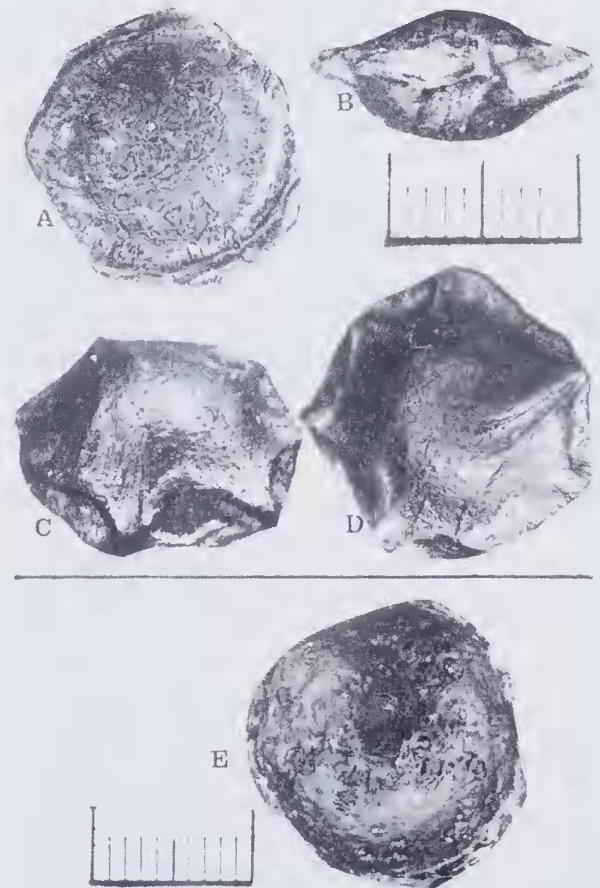


Figure 1 Two australites from Earraheedy Station. Scales are a centimetre divided into millimetres. A-D: Unusual button form. A: Posterior surface of flight showing deceptively broken-looking outline. B: Side view with direction of flight towards bottom of page showing stubby, outwardly directed flange. C: Oblique view of anterior surface showing three of the peripheral scallops with marginal flow ridge. D: Anterior surface of flight showing tendency to petaled shape. E: "Button core", posterior surface with broken outline resulting from loss of flange.

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